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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,133	09/19/2000	Joji Nakane	NAK1-BM62	4836

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EXAMINER
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PERILLA, JASON M

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 11/13/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/665,133

Applicant(s)

NAKANE ET AL.

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☒ Claim(s) 3-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement filed on November 14, 2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein was not submitted with the information disclosure statement form PTO 1449. The missing item is Japanese Patent Application No. 10-13312 and it has been obtained from the Japanese Patent computer database for consideration.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

On page 14, line 8 refers to capacitor 103 although capacitor 104 is appropriate according to the context and figure 7.

Appropriate correction is required.

### ***Claim Objections***

4. Claim 4 is objected to because of the following informalities:

The terms "out of" on line 3 may be difficult to interpret. It is suggested that the terms "out of" are replaced with --among--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahira et al (5220158) in view of Hollenbeck et al (5930304).

Regarding claim 1, Takahira et al discloses a contact-less IC card (abstract) comprising a demodulator circuit (fig. 2, ref. 101) which receives a carrier wave that has been modulated with digital data and demodulates the carrier wave to recover the digital data (col. 3, line 65). Takahira et al further discloses a suspending means which suspends the demodulator circuit during periods where there is no possibility of change of a data value in the digital data (col. 1, line 59; col. 5, line 4). There is no possibility of a change in the data value while the IC card is not proximate to the card reader/writer. Takahira et al does not disclose explicitly that the carrier wave has been modulated with data by amplitude shift keying (ASK). However, Hollenbeck et al discloses and teaches a wireless device that receives an ASK modulated carrier wave (col. 5; line 42). Takahira does disclose a comparator (fig. 2, ref 101) being used as the demodulator, and Hollenbeck et al also discloses the use of a comparator (fig. 5, ref. 532) to

demodulate the carrier wave. The use of ASK modulation allows for simplicity in the demodulation circuit which can be reduced to an envelope detector and comparator. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made that the modulation type used by both Hollenbeck et al *and* Takahira et al is ASK because their demodulation circuits have similar characteristics that would be appropriate for the demodulation of an ASK modulated carrier wave.

Regarding claim 2, Takahira et al in view of Hollenbeck et al disclose the limitations of claim 1 as applied above. Further, Takahira et al disclose a detector circuit which detects an envelope of the ASK modulated carrier wave (fig. 2, ref. 16) and a reference voltage generator (fig. 2, ref. 103, 104; col. 4, line 8). Takahira et al further disclose a comparator circuit (fig. 2, ref. 101) which includes a first input terminal for receiving the output of the reference voltage and a second input terminal. Takahira et al does not disclose using a differential circuit which receives the envelope from the detector circuit and outputs differential components of the received envelope circuit based on the reference voltage. However, Hollenbeck et al teaches the use of a differential circuit (fig. 1, ref. 36; col. 4, line 45) between a detector circuit and an input to a comparator circuit. The differential circuit can be used to reject components of the power signal on the carrier wave (col. 4, line 45). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to utilize a differential circuit as taught by Hollenbeck et al between the carrier wave detector circuit and the comparator that would output the differential component of the received envelope of the carrier wave based on the reference voltage because this differential

circuit would aid the comparator in making correct output decisions due to added rejection of unwanted components common to the carrier wave envelope and the reference voltage.

***Allowable Subject Matter***

7. Claims 3-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are further cited to show the current state of the art with respect to non-contact IC cards, ASK modulation/demodulation techniques and noise rejection.

U.S. Pat. No. 3628059 to Niu; Comparator with adjustable hysteresis.

U.S. Pat. No. 5949823 to Suga et al; Non-contact IC card system.

U.S. Pat. No. 6525362 to Sadayuki; Separation of power supplies for IC card.

U.S. Pat. No. 5449894 to Bruhnke et al; IC card with proximity circuitry.

U.S. Pat. No. 5812942 to Allen et al; Differential IC Card system.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (703) 305-0374. The examiner can normally be reached on M-F 8-5 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Chin can be reached on (703) 305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



Jason M Perilla  
October 25, 2003

jmp



**STEPHEN CHIN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**